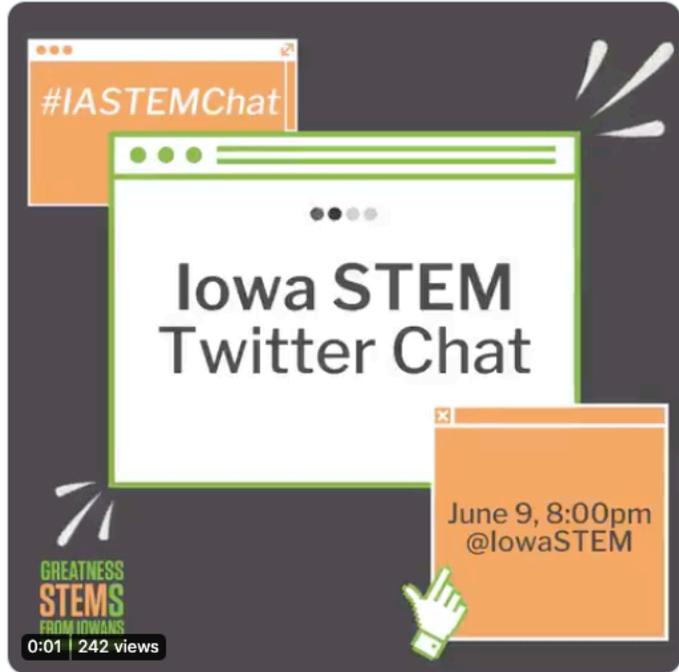


Pre-Chat



Iowa STEM @IowaSTEM · Jun 5
Mark your calendars for our next Twitter chat, happening Tuesday, June 9 at 8pm. 📅

- How to join:
- Follow us.
 - Use the reply icon to answer.
 - Use A1, A2, A3, A4 in your reply so we know which Q1-4 you're answering.
 - Tag tweets with [#IASTEMchat](#)
 - Refresh to see new posts.



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NC STEM Hub @NC_Iowa_STEM · Jun 6
Don't forget about @IowaSTEM's monthly Twitter chat! The next one is coming up on Tuesday, June 9 at 8pm! Follow along @Iowastem for information on how to join. [#IASTEMchat](#)



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SC Iowa STEM Region @SC_Iowa_STEM · Jun 8

Tuesday, June 9 at 8PM--chat about the important topic of **#Equity** in STEM Ed. Discussion includes challenges, innovative ideas, and how **@IowaSTEM** can help. Follow along **@Iowastem** for information on how to join. **#IASTEMChat**

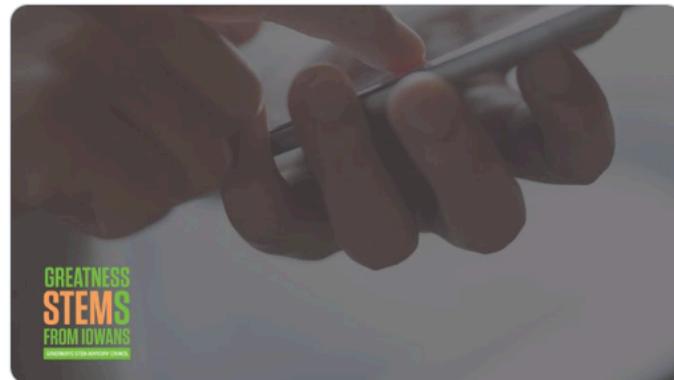


3 5



NW Iowa STEM Region @NWIowaSTEM · Jun 8

Don't forget about **@IowaSTEM**'s monthly Twitter chat! The next one is coming up on Tuesday, June 9 at 8pm! Follow along **@Iowastem** for information on how to join. **#IASTEMChat**



1



Patrick O. Barnes @PatrickOBarnes · Jun 9

Are all welcome for tonight's 8:00 PM CST **#IASTEMchat** on a critical need! **#IowaSTEM #Equity #STEMDiversity**

Iowa STEM @IowaSTEM · Jun 9

Don't forget, our next live Twitter Chat is TONIGHT.

Join us at 8pm to discuss serving the underserved in STEM education, a relevant and important topic right now.

HOW TO

- In Twitter, follow **@IowaSTEM**
- Use the reply icon to answer.
- Use A1, A2, A3, A4 in your answer so we know which Q1-4 you are answering.
- Tag all tweets with **#IASTEMchat**
- Hashtag your grade level and subject **#elem #MS #HS**

TOPICS

- Who are the underserved learners you are striving to reach?
- What are some of the greatest challenges in serving those learners?
- What are some innovative strategies being tried to serve the underserved in STEM education?
- How can the STEM Council help school districts and communities close the STEM opportunity gap?

GREATNESS IN STEM FROM IOWANS | GOVERNOR'S STEM ADVISORY COUNCIL
dedicated to building a strong STEM education foundation for all Iowans

Live Twitter Chat - Tuesday, June 9 at 8:00 PM
"Serving the Underserved in STEM Education"

2 5

Introductions

 **Iowa STEM** @IowaSTEM · Jun 9
#IASTEMchat will begin in 5 minutes!

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 **Iowa STEM**
@IowaSTEM

Welcome to the #IASTEMchat! Our goal tonight is to connect STEM educators and communities to each other and to ideas as we move forward with this new normal. Reply to this tweet and introduce yourself and share your role in ed.

8:00 PM · Jun 9, 2020 · [TweetDeck](#)

||| [View Tweet activity](#)

3 Retweets 7 Likes

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 **SE Iowa STEM Region** @STEM_SE_Iowa · Jun 9
Replying to @IowaSTEM
Kristine Bullock, SE IA Regional STEM Manager w/ IA STEM Council

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 **Jeffrey Weld** @JdWeld · Jun 9
Replying to @IowaSTEM
Good evening STEM-ers. Jeff Weld -- director of Iowa Gov.'s STEM Council. Let's do more toward Equity. #IASTEMchat

🗨️ ↻ ❤️ 5 📤

 **Patrick O. Barnes** @PatrickOBarnes · Jun 9
Replying to @IowaSTEM
Pat Barnes, Global Program Director, STEM & Youth Education @JohnDeere & Iowa Govs. STEM Advisory Council member

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- KariJ** @KariJ2012 · Jun 9

Replying to @IowaSTEM

Kari Britain, Program Manager-IA STEM Council

▾

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- Ann Arnold** @ALCMathGeek · Jun 9

Replying to @IowaSTEM

Ann Arnold, Math Teacher, FRC coach, Dubuque, IA Alternative Education #IASTEMchat

▾

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- Mike Kuennen** @MikeSKuennen · Jun 9

Replying to @IowaSTEM

Mike Kuennen - Facilitator with @IowaBIGNorth

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- Tanya Hunt** @TanyaHu0907 · Jun 9

Replying to @IowaSTEM

Tanya Hunt, Project Coordinator with the Governor's STEM Council. Supporting our STEM BEST Program across Iowa.

▾

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- Kristine Full** @kristinefull · Jun 9

Replying to @IowaSTEM

Hi. Kristine Full, NW STEM region, CSP AP and CSD teacher, tech integrationist @RSMSchools #IASTEMchat

▾

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- Marc Benedict** @MarcBenedict15 · Jun 9

Replying to @IowaSTEM

Marc Benedict - Facilitator at No Boundaries and GT/RA Master Teacher on contract as Assistant Coordinator for Iowa Teacher Externship Program.

▾

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- Rachel Scholze** @rsscholze · Jun 9

Rachel Scholze will be at Madison and Grant in Muscatine. First time for having Makerspace Looking forward to this chat. #IASTEMchat

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Q1: Who are the underserved learners you are striving to reach?

Iowa STEM @IowaSTEM · Jun 9

Q1: Who are the underserved learners you are striving to reach? #IASTEMchat

▾

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SW Iowa STEM Region @SW_Iowa_STEM · Jun 9

Replying to @IowaSTEM

Rural youth with single parent homes--some identified as latchkey youth. Many demographic profiles but not exposed to opportunities to learn - careers, technology, and/or cultural experiences. Many do not have access to afterschool programming. #lowastem



Jeffrey Weld @JdWeld · Jun 9

Replying to @IowaSTEM

A1 Identifying those underserved means asking the right questions of the data. What's measured gets served. #IASTEMchat



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

Replying to @IowaSTEM

A1: We are focusing on students who struggle to find someone that looks like them in STEM fields. Minorities make up only 5% of the STEM workforce- fields that provide growing economic opportunities #IASTEMchat



Ann Arnold @ALCMathGeek · Jun 9

Yes! It is a struggle to explain to some students the importance of even a two year degree or a certificate program to help them find work. They do not think they can afford higher education. Since, they don't know anyone who did it, they can see it. #IASTEMchat



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

It's not a race, it's a journey. There are multiple routes. #IASTEMchat



Ann Arnold @ALCMathGeek · Jun 9

Replying to @IowaSTEM

A1: All of my students are under served learners. All of them are labeled at-risk of not graduating. My students deal with mental health issues, substance abuse, lack of family support, poverty, lack of motivation and more. All my students deserve to be educated. #IASTEMchat



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

We have to meet students where they're at and help them persevere rather than assuming "they have to have what it takes" to be successful in STEM. STEM can be a game changer! #IASTEMchat



Ann Arnold @ALCMathGeek · Jun 9

Yes! It's important to get them excited about something and to show them the fun. Then tell them, "You can get paid doing stuff like this!" #IASTEMchat



Patrick O. Barnes @PatrickOBarnes · Jun 9

Agree along with trying to reach students at a young age!



Ann Arnold @ALCMathGeek · Jun 9

STEM really is for everyone. #IASTEMchat





Mike Kuennen @MikeSKuennen · Jun 9

Replying to @IowaSTEM

A1: We are reaching out to EVERYONE, and especially students that may struggle in the traditional classroom setting. My personal philosophy is EVERY student can be successful in school, but the environment will be different. #IASTEMchat @IowaBIGNorth

2



8



Ann Arnold @ALCMathGeek · Jun 9

Your philosophy is wonderful!!! Every student can be successful!
#IASTEMchat



2



Patrick O. Barnes @PatrickOBarnes · Jun 9

A1: Prioritizing support for underserved & underrepresented students in STEM. This includes people of color, girls & young women, economically disadvantaged and first generation. #IASTEMChat



9



Rachel Scholze @rsscholze · Jun 9

A1. I think by implementing and collaborating with teachers in STEM/STEAM I can reach some of the underserved. Really want to learn more about how to work STEM ideas in my new Makerspace.
#IASTEMchat



4

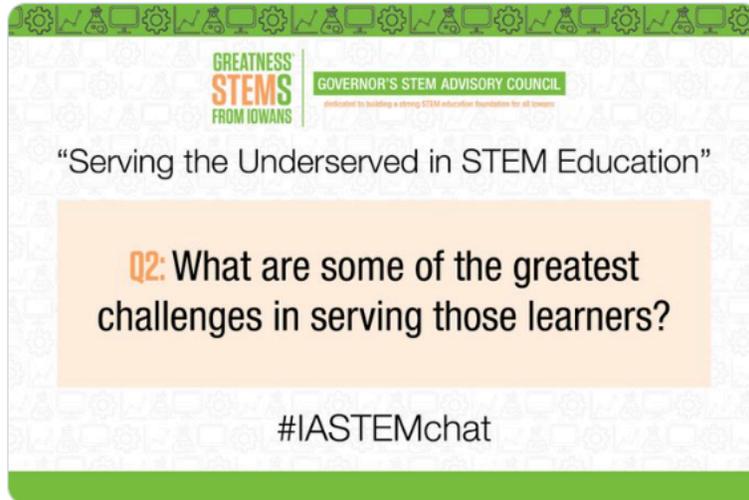


Q2: What are some of the greatest challenges in serving those learners?



Iowa STEM
@IowaSTEM

Q2: What are some of the greatest challenges in serving those learners?



8:20 PM · Jun 9, 2020 · TweetDeck

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SW Iowa STEM Region @SW_Iowa_STEM · Jun 9

Replying to @IowaSTEM

views of those who decide what curriculum is taught do not make the connection to meeting specific needs of each student - career emphasis, skills for daily living, some need SEL. Have heard the phrase "one size does not fit all students" frequently in last 8 weeks. #IASTEMchat



3



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

Replying to @IowaSTEM

Q2: We need to continuously be aware of how our programming could draw in or push out different groups. We can't get stuck in doing things the way we've always done them. Continuous evaluation of the speakers we put in front of students, our messaging, our content. #IASTEMChat



1



6



Ann Arnold @ALCMathGeek · Jun 9

You make a good point. We need figure out a way to attract different groups of people. These students "don't know what they don't know." We need to make apprenticeships and real hands on work practical for these students. #IASTEMchat



1



5



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

And if they still aren't interested, be willing to hear their honest answers about why they think STEM isn't for them and willing to adapt to their needs. #IASTEMchat



5





Patrick O. Barnes @PatrickOBarnes · Jun 9

Replying to @IowaSTEM

A2: Another challenge can be for some students not able to participate in fun, engaging programs after school such as @firstlegoleague because of various barriers such as transportation or funding not available for teachers to support #IASTEMChat

3



6



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

Definite challenge but some districts are prioritizing these programs in the schools to limit these barriers. Many schools don't think they can work it into the school day. We need to highlight great local examples of innovative solutions. #IASTEMChat



5



Ann Arnold @ALCMathGeek · Jun 9

Replying to @IowaSTEM

A2: Convincing learners that STEM is not too hard. My students don't want to take my robotics class because it sounds "hard". Then they see others take it and they say "That looks fun, but I still don't want to do it." Somewhere Challenges became a bad thing. #IASTEMchat

2



6



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

Emphasizes the need to start young. But how do we support students through this challenge when they didn't have access at a young age? #IASTEMChat

2



4



Patrick O. Barnes @PatrickOBarnes · Jun 9

A2: Support them at whatever age we can with engaging, real world #STEM experiences providing relevancy for them. #IASTEMChat



5



Mike Kuennen @MikeSKuennen · Jun 9

Replying to @IowaSTEM

Developing a relationship with the student fast enough so they feel comfortable asking for help with whatever they need to be successful. Sometimes it is as simple as transportation, but w/o the relationship/trust we can miss opportunities. #IOWASTEMchat

1



5



SE Iowa STEM Region @STEM_SE_Iowa · Jun 9

Trust also allows students to push through failures which are some of the best STEM learning experiences. #IASTEMChat



5



Paul J. Barnard wears 🧼 washes 🧼 🤖 real get over it @... · Jun 9

Replying to @IowaSTEM

A2. At HS level the forcing into classes that are graduation requirements. These kids are tacked in almost every core subject. They feel as if they are second class. Breaking down that perception comes first. Giving them same opportunities as other classes 4 activities next.

1



3



Ann Arnold @ALCMathGeek · Jun 9

Yes! It goes both ways. STEM is not just for Smart kids, and just because it's not AP doesn't mean it not worthwhile.



1



 **Mike Kuennen** @MikeSKuennen · Jun 9
#failingforward #IASTEMchat

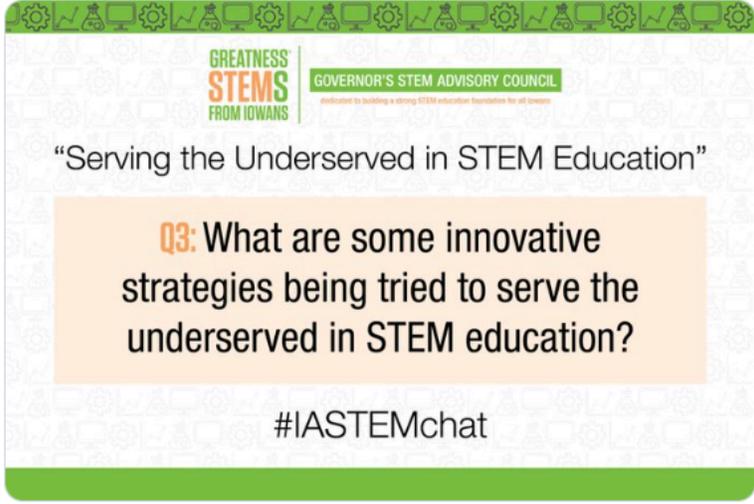
 **SE Iowa STEM Region** @STEM_SE_Iowa · Jun 9
Replying to @MikeSKuennen and @IowaSTEM
Trust also allows students to push through failures which are some of the best STEM learning experiences. #IASTEMChat

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Q3: What are some innovative strategies being tried to serve the underserved in STEM education?

 **Iowa STEM** @IowaSTEM

Q3: What are some innovative strategies being tried to serve the underserved in STEM education? #IASTEMchat



“Serving the Underserved in STEM Education”

Q3: What are some innovative strategies being tried to serve the underserved in STEM education?

#IASTEMchat

8:35 PM · Jun 9, 2020 · [TweetDeck](#)

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1 Like

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 **SE Iowa STEM Region** @STEM_SE_Iowa · Jun 9
Replying to @IowaSTEM

A3: Starting programming early for all students. CS integrated into elementary curriculum, robotics programs taught during the school day, MS exploratory courses that provide access to STEM 4 all. STEM Festivals that provide transportation for students & curriculum 4 teachers

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 **Jeffrey Weld** @JdWeld · Jun 9
Replying to @IowaSTEM
A3 Teacher P.D. in micro-messaging, stereotype threat, implicit bias can be life-changing for educators *and* their students #IASTEMchat

🗨️ ↻️ ❤️ 4 📤

 **Patrick O. Barnes** @PatrickOBarnes · Jun 9
Replying to @IowaSTEM
A3: Partnering with #STEM technical societies with their professionals connected to underrepresented students such as @SWETalk @NSBE & @SHPE who can serve as role models & mentors #IASTEMChat

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 **SE Iowa STEM Region** @STEM_SE_Iowa · Jun 9
A3: Is there a portal with this info to help educators contact these groups? #IASTEMchat

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 **Patrick O. Barnes** @PatrickOBarnes · Jun 9
A3: Not that I'm aware of but this is something we can look at how to make it easier to connect with the groups & members as part of the @Iowastem Equity Working Group. All three have a strong presence in Iowa. #IASTEMChat

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 **Mike Kuennen** @MikeSKuennen · Jun 9
Replying to @IowaSTEM
A3: Our leadership teams and guidance counselors are instrumental in our model. The conversations and the "Give it a try" philosophy has been great. It is my goal that this type of support will become building-wide in the future. Do what is best for kids. #IASTEMchat

🗨️ 1 ↻️ ❤️ 10 📤

 **SE Iowa STEM Region** @STEM_SE_Iowa · Jun 9
Love the "give it a try" approach. Students shouldn't have to silo themselves in HS because they need certain grades or colleges are looking for certain courses.

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 **Ann Arnold** @ALCMathGeek · Jun 9
Replying to @IowaSTEM
A3: This is "THE" question. Right now, I focus on making relationships with my students. I want to learn about their interests and their plans so I can help steer them in a direction. This is a hard one. #IASTEMchat

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 **Iowa STEM** @IowaSTEM · Jun 9
Connecting with students as individuals and adapting teaching and behaviors will be discussed in our Fostering Equity in the STEM Classroom workshop next week!

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 **Paul J. Barnard** wears 🧼 washes 🧼 🧼 real get over it @... · Jun 9
Replying to @IowaSTEM
A3 relating where topics occur in life in careers/fields I have noticed my students congregate towards.

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Kristine Full @kristinefull · Jun 9

Developing relationships will be a key area of focus if we are dealing with distance learning this fall. [#IASTEMchat](#)



Ann Arnold @ALCMathGeek · Jun 9

Replying to @lowaSTEM

A3: This is "THE" question. Right now, I focus on making relationships with my students. I want to learn about their interests and their plans so I can help steer them in a direction. This is a hard one.
[#IASTEMchat](#)



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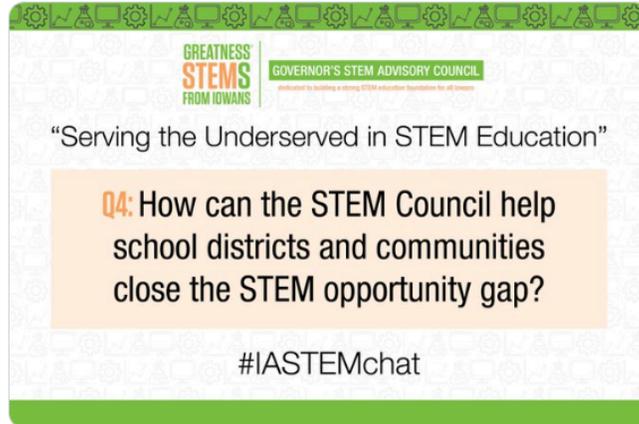
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Q4: How can the STEM Council help school districts and communities close the STEM opportunity gap?



Q4: How can the STEM Council help school districts and communities close the STEM opportunity gap?
[#IASTEMchat](#)



8:50 PM · Jun 9, 2020 · [TweetDeck](#)

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Jeffrey Weld @JdWeld · Jun 9
Replying to @IowaSTEM
Very excited to see what our Equity Working Group serves up to the STEM Council in October! [#IASTEMchat](#)



Patrick O. Barnes @PatrickOBarnes · Jun 9
Replying to @IowaSTEM
A4: Continue to work to further educate key stakeholders including parents, employers, educators on why it's critical to improve our support for undeserved students in [#STEM](#). I.E. The Case of Action. [#IASTEMChat](#)



Mike Kuennen @MikeSKuennen · Jun 9
Replying to @IowaSTEM
A4: [@IowaBIGNorth](#) would not be in existence w/o you!! The STEM BEST, Scale-Up, & Externship programs are phenomenal, along with the numerous other collaborative opportunities we are fortunate to participate in! Keep up the GREAT work!! [#IASTEMchat](#)



Paul J. Barnard wears 🧢 washes 🧼 🤖 real get over it @... · Jun 9
Replying to @IowaSTEM
A4 pt 2. Helping schools with job shadows & internships in placements & partners.



Paul J. Barnard wears 🧢 washes 🧼 🤖 real get over it @... · Jun 9
Replying to @IowaSTEM
A4 There is not a lot that can be done in the classroom since almost every school is different in demographics, sequence of courses, etc. could offer competitive grants for professional orgs or tuition scholarships to teach modeling based courses (virtual or regionally summer)



Conclusion

 **Kristine Full** @kristinefull · Jun 9
A4: The STEM Council has done so much already to get the programs and tools into the hands of Ss all across the state who might never have had this opportunity - THANK YOU! [#IASTEMchat](#)

🗨️ ↻ ❤️ 6 ↗

 **Iowa STEM** @IowaSTEM
Thank you for joining us tonight! We will continue hosting a monthly Twitter chat on the second Tuesday of every month. The next chat will be held on July 14. We look forward to chatting again!

9:00 PM · Jun 9, 2020 · [TweetDeck](#)

||| View Tweet activity

6 Likes

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 **Iowa STEM** @IowaSTEM

Educators, feel free to join our Educator Facebook Group to continue the conversation.
facebook.com/groups/IowaSTEMchat

9:01 PM · Jun 9, 2020 · [TweetDeck](#)

||| View Tweet activity

1 Retweet 3 Likes

🗨️ ↻ ❤️ ↗

 **Kristine Full** @kristinefull · Jun 9
Nice visiting with all of you on [#IASTEMchat](#)

🗨️ ↻ ❤️ 4 ↗

 **Ann Arnold** @ALCMathGeek

Thank you [@IowaSTEM](#) for the fantastic [#IASTEMchat](#) on "Serving the Underserved In STEM Education"

8:55 PM · Jun 9, 2020 · [Twitter Web App](#)

5 Likes

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